

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-45 (Canceled).

46. (Currently Amended) A method for reducing ~~or eliminating~~ the susceptibility of a tropoelastin to proteolysis comprising mutating ~~a sub-sequence in an amino acid sequence of~~ the tropoelastin which is susceptible to cleavage by one or more proteases selected from the group consisting of a serine protease and a metalloproteinase, so that the mutated amino acid sequence is not cleaved by the protease ~~so that the susceptibility of the tropoelastin to proteolysis is reduced or eliminated.~~

47 (Currently Amended) A method ~~according to~~ of claim 46, wherein: ~~one sub-sequence is mutated.~~

(a) susceptibility of the tropoelastin to serine protease is reduced by mutating one or more amino acid sequences of the tropoelastin selected from the group consisting of RAAAG (amino acid 1 to 5 of SEQ ID NO:9), the amino acid sequences shown in SEQ ID NO: 8 to 12, and the amino acid sequences shown in SEQ ID NO: 17 to 44; or

(b) susceptibility of the tropoelastin to metalloproteinase is reduced by mutating one or more amino acid sequences of the tropoelastin selected from the group consisting of ALAAA (amino acid 1 to 5 of SEQ ID NO:13), the amino acid sequences shown in SEQ ID NO: 13, and the amino acid sequences shown in SEQ ID NO: 45 to 70.

48. (Currently Amended) A method according to claim 46 wherein one amino acid residue in the amino acid ~~sub~~-sequence is mutated.

49. (Currently Amended) A method according to claim ~~46~~9 wherein the protease is sub-sequence is capable of being digested by a serine protease.

50. (Currently Amended) A method according to claim ~~50~~ 47 wherein the amino acid sub-sequence has an amino acid sequence including the sequence: RAAAG, amino acid aa 1 to 5 of SEQ ID NO:9, is mutated by replacing arginine with alanine,.

51. (Currently Amended) A method according to claim ~~50~~ 47 wherein the amino acid sequence selected from the group of sequences shown in sub-sequence is mutated by replacing arginine in the sequence: RAAAG, aa 1 to 5 of SEQ ID NOS: 9, 17 to 44, is mutated by replacing arginine with alanine.

52. (Currently Amended) A method according to claim ~~46~~9 wherein the serine protease is plasmin sub-sequence has an amino acid sequence selected from the group of sequences shown in SEQ ID NOS: 17 to 44.

53. (Currently Amended) A method according to claim ~~52~~ 47 wherein the sub-sequence is mutated by replacing arginine in the amino acid sequence selected from the group of sequences shown in SEQ ID NOS: 17 to 44 is mutated by replacing arginine with alanine.

54. (Currently Amended) A method according to claim ~~49~~ 46 wherein the sub-sequence is capable of being digested by serine protease is thrombin and has an amino acid sequence shown in SEQ ID NOS: 8 or 9.

55. (Currently Amended) A method according to claim ~~49~~ 52 wherein the sub-sequence is capable of being digested by plasmin and has an amino acid sequence is selected from the group consisting of shown in SEQ ID NOS: 11 and or 12.

56. (Currently Amended) A method according to claim 49 ~~57~~ wherein the amino acid sequence is selected from the group consisting of SEQ ID NO: 8 and 9 ~~sub-sequence is capable of being digested by kallikrein.~~

57. (Currently Amended) A method according to claim ~~54~~6 wherein the protease is kallikrein ~~sub-sequence has an amino acid sequence shown in SEQ ID NOS: 9 or 10.~~

58. (Currently Amended) A method according to claim 46 wherein the sequence is capable of being digested by protease is a metalloproteinase.

Claim 59. Cancelled.

60. (Currently Amended) A method according to claim ~~59~~ 47 wherein the sub-amino acid sequence is mutated by replacing alanine at any position in the sequence: ALAAA, aa 1 to 5 of SEQ ID NO:13, is mutated by replacing the alanine at any position in the sequence with another amino acid residue.

61. (Currently Amended) A method according to claim ~~47~~ 60 wherein the sub-amino acid sequence is mutated by replacing the alanine which is N-terminal to leucine in the sequence: ALAAA, aa 1 to 5 of SEQ ID NO:13, is mutated by replacing the alanine which is N-terminal to leucine with another amino acid.

Claim 62. Cancelled.

63. (Currently Amended) A method according to claim ~~61~~ 47 wherein the sub-amino acid sequence is mutated by replacing alanine at any position in the sequence selected

from the group of sequences shown in SEQ ID NOS: 45 to 70 is mutated by replacing alanine at any position in the sequence with another amino acid residue.

64. (Currently Amended) A method according to claim 63 wherein the alanine that is replaced is N-terminal to leucine.

65. (Currently Amended) A method according to claim 58 wherein the ~~sub-~~
~~sequence is capable of being digested by metalloproteinase~~ is gelatinase A or B.

66. (Currently Amended) A method according to claim 65 wherein the ~~sub-~~
amino acid sequence has an amino acid sequence shown in SEQ ID NO: 13.

67. (Currently Amended) A method according to any one of claims 46 to 58, 60,
61 or 63-65 ~~66~~ wherein the tropoelastin is human tropoelastin.

68. (Withdrawn) A method for enhancing the susceptibility of a tropoelastin to proteolysis comprising inserting a sub-sequence into the tropoelastin so that the susceptibility of the tropoelastin to proteolysis is enhanced.

69. (Withdrawn) A method according to claim 68 wherein one sub-sequence is inserted.

70. (Withdrawn) A method according to claim 68 wherein the inserted sub-sequence is capable of being digested with a serine protease.

71. (Withdrawn) A method according to claim 70 wherein the inserted sub-sequence has an amino acid sequence including the sequence: RAAAG, amino acids 1 to 5 of SEQ ID NO:9.

72. (Withdrawn) A method according to claim 70 wherein the inserted sub-sequence has an amino acid sequence selected from the group of sequences shown in SEQ ID NOS: 17 to 44.

73. (Withdrawn) A method according to claim 70 wherein the inserted sub-sequence is capable of being digested by thrombin and has an amino acid sequence shown in SEQ ID NOS: 8 or 9.

74. (Withdrawn) A method according to claim 70 wherein the inserted sub-sequence is capable of being digested by plasmin and has an amino acid sequence shown in SEQ ID NOS: 11 or 12.

75. (Withdrawn) A method according to claim 70 wherein the inserted sub-sequence is capable of being digested by kallikrein.

76. (Withdrawn) A method according to claim 75 wherein the inserted sub-sequence has an amino acid sequence shown in SEQ ID NOS: 9 or 10.

77. (Withdrawn) A method according to claim 68 wherein the inserted sub-sequence is capable of being digested by a metalloproteinase.

78. (Withdrawn). A method according to claim 76 wherein the inserted sub-sequence has an amino acid sequence including the sequence: ALAAA, amino acidaa 1 to 5 of SEQ ID NO:13.

79. (Withdrawn) A method according to claim 77 wherein the inserted sub-sequence has an amino acid sequence selected from the group of sequences shown in SEQ ID NOS: 45 to 70.

80. (Withdrawn) A method according to claim 77 wherein the inserted sub-sequence is capable of being digested by gelatinase A or B.

81. (Withdrawn) A method according to claim 80 wherein the inserted sub-sequence has the amino acid sequence shown in SEQ ID NO: 13.

82. (Withdrawn) A method according to any one of claims 68 to 81 wherein the tropoelastin is human tropoelastin.

83. (Withdrawn) A peptidomimetic molecule comprising all or part of a peptide selected from the group consisting of KAPGVGGAF, SEQ ID NO:9; RAAAGLG, SEQ ID NO:9; RSLSPELREGD, SEQ ID NO:10; KAAQFGLVPGV, SEQ ID NO:14; KSAAKVAAKAQLRAA, 503 to 517 of SEQ ID NO:4; RSLSPELRE, 1 to 9 of SEQ ID NO:10; LAAAKAAKYGAA, 2 to 13 of SEQ ID NO:13.

84. (Withdrawn) A peptidomimetic molecule which has the sequence: H-Ala-Ala-Lys-Ala-Gln-Leu-Arg-Ala-Ala-Ala-Gly-Leu-Gly-Ala-OH, 509 to 522 of SEQ ID NO:4, or H-Ala-Ala-Lys-Ala-Gln-Leu-Arg-R-Ala-Ala-Ala-Gly-Leu-Gly-Ala-OH, 509 to 522 of SEQ ID NO:4, (where R = a reduced peptide bond).

85. (Withdrawn) A peptidomimetic molecule which is a retro-inverso pseudo peptide which has the sequence: H-D-Ala-Gly-D-Leu-Gly-D-Ala-D-Ala-D-Ala-(R)-D-Arg-D-Leu-D-Gln-D-Ala-D-Lys-D-Ala-D-Ala-OH, SEQ ID NO:84, (where R = a reduced peptide bond) or H-D-Ala-Gly-D-Leu-Gly-D-Ala-D-Ala-D-Ala-D-Arg-D-Leu-D-Gln-D-Ala-D-Lys-D-Ala-D-Ala-OH, SEQ ID NO: 85.

86. (Withdrawn) A peptidomimetic molecule which has the sequence H-Val-Pro-Gly-Ala-Leu-Ala-Ala-Ala-OH, 557 to 564 of SEQ ID NO:5, or H-Val-Pro-Gly-Ala-(R)-Leu-Ala-Ala-Ala-OH (where R = a reduced peptide bond), SEQ ID NO 86.

87. (Withdrawn) A peptidomimetic molecule which is a retro-inverso pseudo peptide which has the sequence: H-D-Ala-D-Ala-D-Ala-D-Leu-(R)-D-Ala-Gly-D-Pro-D-Val-OH (where R = a reduced peptide bond), SEQ ID NO:87 or H-D-Ala-D-Ala-D-Ala-D-Leu-D-Ala-Gly-D-Pro-D-Val-OH, SEQ ID NO:88.

88. (Withdrawn) A method for enhancing the purification of a tropoelastin comprising including a peptidomimetic molecule according to any one of claims 82 to 86 in a crude tropoelastin preparation which is being subjected to purification.

89. (Withdrawn) A pharmaceutical composition comprising a peptidomimetic molecule according to any one of claims 82 to 86 and a pharmaceutically acceptable carrier.